



SWGDM Meeting
Fredericksburg, VA
July 14, 2016



Updates on OSAC, NCFS, and Recent NIST Activities

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Member, AAFS Standards Board DNA Consensus Body

OSAC Liaison to SWGDM

Associate Editor, *Forensic Science International: Genetics*

Representative of the Working Groups, International Society for Forensic Genetics

My role as OSAC Liaison to SWGDAM

- I enjoyed visiting each of the committees yesterday – impressive work is occurring here!
- Thank you for the hospitality shown when I visited your groups
- I am committed to see both SWGDAM and OSAC be successful in their different roles

Organization of Scientific Area Committees (OSAC)

Forensic discipline-specific “guidance groups”
administered by NIST



NIST
National Institute of
Standards and Technology
U.S. Department of Commerce

<http://www.nist.gov/forensics/osac/index.cfm>

Current Hierarchy of Standards for Accrediting Bodies to Use in Auditing U.S. Forensic DNA Laboratories



International Laboratory Accreditation Cooperation (ILAC)
G19:08/2014 Modules in a Forensic Science Process



**ISO/IEC 17025:2005 General requirements for the
competence of testing and calibration laboratories**



The FBI Quality Assurance Standards (2011) serve as
supplemental materials to ISO/IEC 17025 for DNA audits



SWGAM guidelines (interpretation, validation, etc.)
provide further information but are not audited against

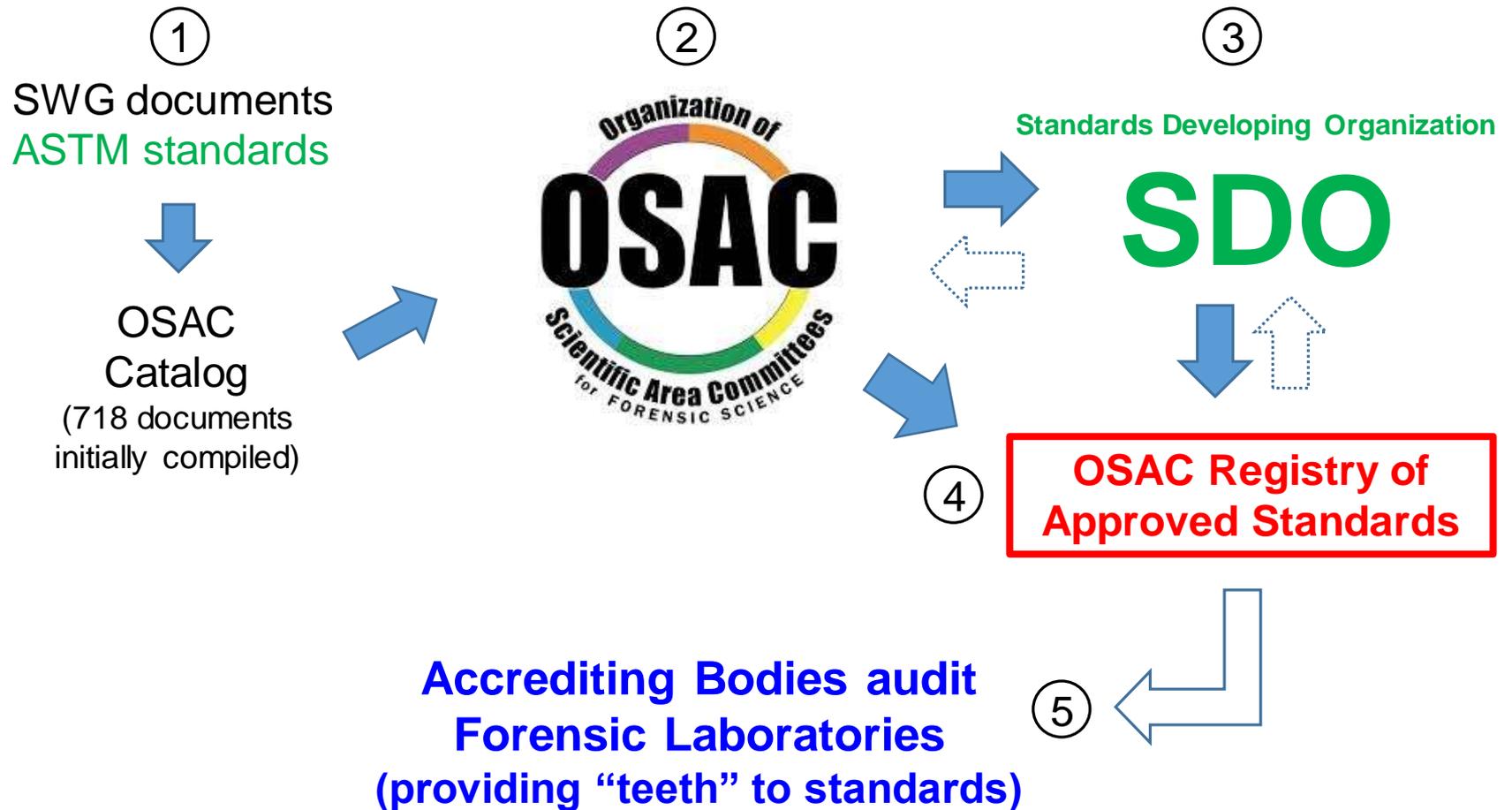
OVERALL GOAL of OSAC REGISTRY:

Provide trusted discipline-specific standards (and guidelines)
that accrediting bodies can use to audit accredited laboratories

**Provides initial
starting material**

**Creates high-quality
guidance materials**

**Turns OSAC materials
into standards**



(**bold font** = those who are also OSAC members)

<u>Name</u>	<u>Affiliation</u>
Bicka Barlow	Law Office of Bicka Barlow
Howard Baum	NJSP Office of Forensic Sciences
Ryan Buchanan	Sorenson Forensics
John M. Butler	National Institute of Standards and Technology
Kris Cano	Scottsdale Police Dept. Crime Lab
Robin Cotton	Boston Univ. School of Med.
James Curran	University of Auckland
Marsha Deitz (Garcia)	AABB
Julie A. Demarest	AFDIL (contractor of ARP Sciences supporting the Armed Forces DNA Identification Laboratory, a Division of AFMES), Laboratory Automation, Biometrics and Special Projects Group
Seth A. Faith	NC State University Forensic Sciences Institute
Julie French	GE Healthcare
Jessica Gabel Cino	Georgia State University College of Law
Jessica Goldthwaite	The Legal Aid Society
Brian Higgins	DFSC-USACIL
Phil Kinsey	MT Dept of Justice
Amy Lee	Serological Research Institute
Steven B. Lee	Illumina Inc.
Heather Miller Coyle	University of New Haven
Amber Moss	Texas Department of Public Safety Crime Lab
Kimberly Murga	Las Vegas Metropolitan Police Department
Melisa W. Staples	New Hampshire State Police Forensic Laboratory
Jane Taupin	Self employed
Charlotte J. Word	Self employed
Timothy Zolandz	FBI
Candy Zuleger	Trinity DNA Solutions

AAFS Standards Board (ASB)

DNA Consensus Body Membership

25 members

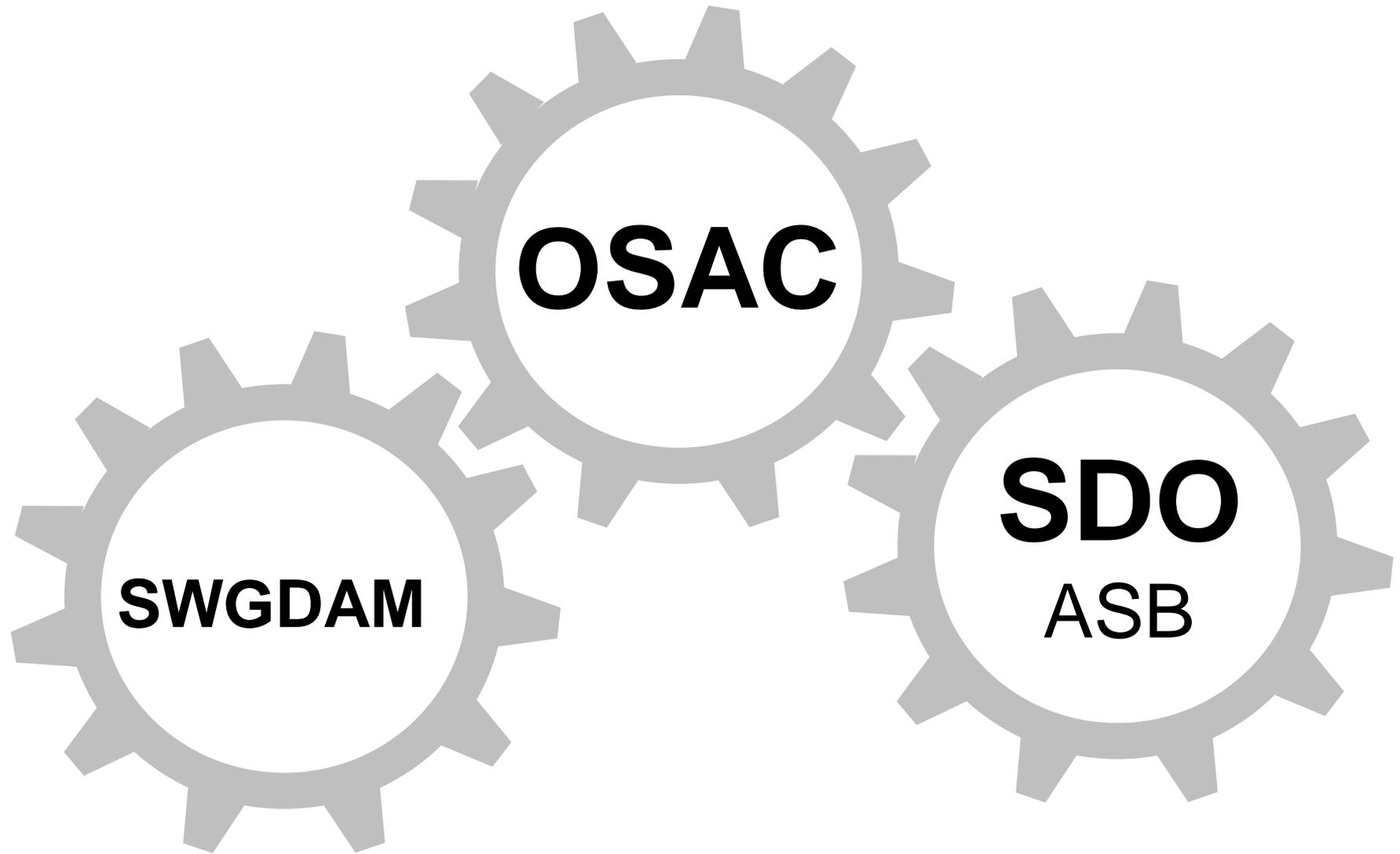
appointed in June 2016

Chair
Kris Cano



<http://asb.aafs.org/>

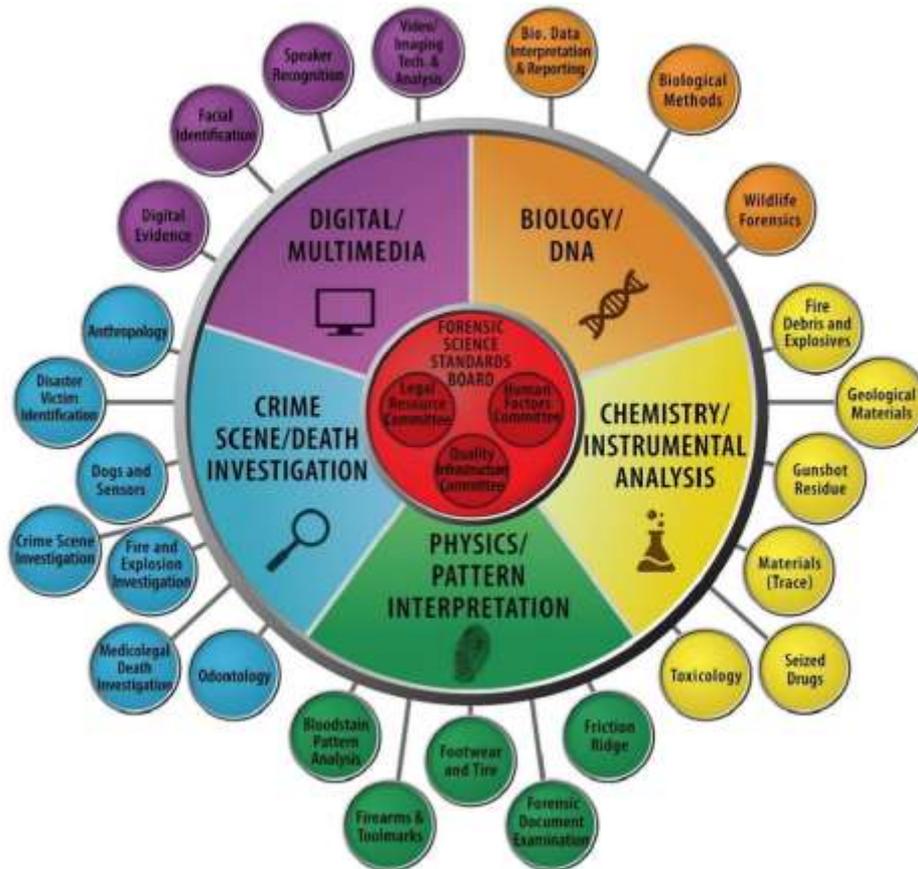
Coordination Needed in Forensic Science Standards Development



FBI Quality Assurance Standards (QAS) and OSAC Registry

- The FBI Director is Congressionally mandated by the DNA Identification Act of 1994 (Public Law 103-322) to **set requirements for participation in the National DNA Index System (NDIS)**, which was done through creation of the QAS in 1998/1999 by the DNA Advisory Board (DAB)
 - When the DAB's term expired in 2000, SWGDAM was given responsibility for revising the QAS and accompanying audit documents, which has been done in 2009 and 2011
- However, **SWGDAM and the FBI are not recognized SDOs (Standards Developing Organizations)** nor has the QAS gone through a full SDO-process
- Currently, OSAC has decided that **the QAS will not go through the OSAC Registry Approval process** as it has to be maintained by the FBI (according to Congressional mandate) and does not meet the SDO-process (as defined by the OSAC Quality Infrastructure Committee)
- The **FBI QAS do not prevent the development and implementation of OSAC standards/guidelines** that will complement the quality and integrity of the discipline that is currently viewed as the gold standard of forensic science.

Recent or Upcoming OSAC Events



- **February 22-23, 2016** – **Second public meeting** with presentations by SAC and subcommittee chairs in Las Vegas, NV as part of AAFS
- **August 23-26, 2016** – **Third in-person meeting** of SAC Biology/DNA and subcommittees (Phoenix, AZ)

January 2016 – first posting to OSAC Registry of Approved Standards
March 2016 – NIST statement; **July 2016** – Joint FSSB & NIST Statement

SAC Biology/DNA Public Meeting

held February 22, 2016 in Las Vegas, NV

- Biology Data Interpretation and Reporting Subcommittee
 - <http://www.nist.gov/forensics/osac/upload/Bio-Data-Interpretation-Reporting-Subcommittee.pdf>
- Biological Methods Subcommittee
 - <http://www.nist.gov/forensics/osac/upload/Biological-Methods-Subcommittee-Presentation-AAFS-2016.pdf>
- Wildlife Forensics Subcommittee
 - <http://www.nist.gov/forensics/osac/upload/Wildlife-Forensics-AAFS-2016.pdf>

OSAC Research Needs Assessment



OSAC Research Needs Assessment Form

Title of research need:

To Improve the Analysis of Serological Evidence: ID of Body Fluid

Keywords:

Body Fluid Stains, Serology, Saliva, Semen, Blood

Submitting subcommittee(s):

Biological Methods SC - DNA

Date Approved:

1/28/16

(If SAC review identifies additional subcommittees, add them to the box above.)

Background information:

1. Description of research need:

Considerable research has been conducted to improve DNA analysis techniques but little has changed for the front end, the classical serological analysis of evidence. Research is underway to make improvements but the emphasis of the NIJ research portfolio should address the need to make real transformational change to how evidence is examined. It would be beneficial to add methods which would decrease the serological analysis time on items like sheets, clothing, etc.

OSAC Biology/DNA SAC Summary

- **Regular conference calls (virtual meetings)**
 - SAC and subcommittees each meet at least monthly
 - Task groups meet sometimes multiple times per month
- A public SAC meeting/public comment session was held as part of the ISHI meeting in Grapevine, Texas on October 15, 2015
- A Biology/DNA Scientific Area Committee Public Status Reports & Open Discussion was held February 22, 2016 as part of the AAFS meeting in Las Vegas, Nevada

<http://www.nist.gov/forensics/osac/nist-scientific-area-committee-meetings-february-2016.cfm>

- **George Herrin, chair of SAC Biology/DNA, will be giving an update on OSAC projects at ISHI on September 29, 2016**
- Several documents are close to being completed for submission to a Standards Developing Organization (SDO)
- AAFS Standards Board (ASB) is a newly formed SDO; the current plan is to use this route for SAC Biology/DNA documents

SAC Biology/DNA Activities

1

Subgroups (19)

- Biological Data & Reporting
 - BDIRC - Probabilistic Genotyping Task Group
 - BDIRC - Software Validation Standards Task Group
 - BDIRC - Statistical Interpretation Task Group
 - BDIRC – Mixture Interpretation Verification Task Group

2

- Biological Methods
 - Education & Training
 - Sample Identification and Collection
 - Terminology
 - Validation/Method

3

- Bio Terminology Task Group

4

- Wildlife Forensics
 - Education and Training TG
 - OSAC Wild Admin
 - Report Writing TG
 - Standards and Guidelines TG
 - STR Panels TG
 - Terminology TG
 - Validation TG

Projects

Assigned Projects:

Bio Terminology Task Group

SAC All, Virt 1 Sub, RA-1 (Standard), ISO/IEC 17020: 2012

SAC All, Virt 1 Sub, RA-2 (Standard) ISO/IEC 17025:2005

SAC Bio, Bio Terminology Task Group Part 2

SAC Bio, SDO-0, Best Practices for Assessing Education Requirements

SAC Bio, SDO-0, Wildlife Sub, Research Need - Geographic Assignment

SAC Bio, Wildlife RA – 1 (Standard) – ASTM 12345 Test

Visible Projects:

Multiple SACs VSC#2 RA-1 (Standard) ANSI/NIST

SAC Bio, Internal Validation Standards for STR Profiling on CE Platforms

SAC Bio, Biological Data Interpretation and Reporting Sub, SDO-1

(Guideline)-Bio/DNA Software Validation Guidelines

SAC Bio, Biological Data Interpretation and Reporting Sub, SDO-2 (Standard)-
Mixture Interpretation Verification

SAC Bio, Biological Data Interpretation and Reporting Sub, SDO-3 (Standard)-
Validation Standards for Probabilistic Genotyping Systems

SAC Bio, Biological Data Interpretation and Reporting Sub, SDO-4 (Standard)-
Standards for Statistical Analysis of Autosomal STR DNA Typing Results

SAC Bio, SDO-0, General Standard for Training DNA Analysts

SAC Bio, SDO-0, Standard for General Forensic Laboratory Training

SAC Bio, SDO-0, Standards for Serological Analytical Procedures

SAC Bio, SDO-0, Standards for the Validation of Serological Methods

SAC Bio, SDO-0, Standards for Training in Serological Methods

SAC Bio, SDO-0, Training Standard for DNA Isolation and Purification
Methods

SAC Bio, SDO-0, Training Standard for Mitochondrial DNA Sequencing
Analysis

SAC Bio, SDO-0, Training Standard for Real-time PCR DNA Quantitation
Methods

SAC Bio, SDO-0, Training Standard for STR Typing via Capillary
Electrophoresis

SAC Bio, Standards for Internal Validation of DNA Analysis Methods

SAC Bio, Wildlife Sub, SDO-1 - General Standards

SAC Bio, Wildlife Sub, SDO-2 - Report Writing Guidelines

OSAC Biology/DNA Documents Close to Completion (then will go through an SDO process)

Biological Methods Subcommittee

1. Best Practices Recommendations for Assessing Educational Requirements for Forensic DNA Analysts
2. Standards for Internal Validation of DNA Analysis Methods
3. Standards for the Analytical Procedures and Report Writing of Serological Methods
4. Standards for Training in Serological Methods
5. Best Practices for Training of DNA Isolation and Purification Methods

Biological Data & Reporting Subcommittee

1. Validation Standards for Probabilistic Genotyping Systems
2. Mixture Interpretation Verification
3. Software Validation Guidelines

Wildlife Forensics Subcommittee

1. General Standards
2. Report Writing Guidelines

Plan for Sharing and Getting Feedback on OSAC DNA Documents

- Biology/DNA SAC meets in Phoenix next month and hopes to complete review of many of these documents
- **Once documents have cleared the SAC approval, they will be provided to the SWGDAM chair and DNA Technical Leaders** as they are being sent to the ASB SDO process (to provide additional time to review before the official SDO public comments period)

OSAC Monthly Newsletter

A communication vehicle to improve interaction with stakeholders



One of the ways to solicit public comment on standards and guidelines up for consideration on the OSAC Registries

Issues (to-date)

- August 2015
- Sept 2015
- Oct 2015
- Nov 2015
- Dec 2015
- Jan 2016
- Feb 2016
- Mar 2016
- Apr 2016
- May 2016
- June 2016
- July 2016

Newsletters released around 15th of each month

<http://nist.gov/forensics/osac/osac-newsletter.cfm>



Nurturing Disparate Disciplines in a Long-Neglected Profession

Invited article by David Stoney for the July 2016 OSAC Newsletter

DAVID STONEY
Chief Scientist at
Stoney Forensic,
member of the
OSAC Physics/
Pattern Scientific
Area Committee

If we were to step back a bit to get a perspective on OSAC, we'd have to get pretty far away. In fact, if we were to view it from above we'd be at a dizzying height. "A collaborative body of more than 500 forensic science practitioners and other experts who represent local, state, and federal agencies; academia; and industry." We are a bit larger, and considerably more diverse in profession, than the United States Congress. If we find ourselves frustrated over the progress of our documents, coordination of our efforts, accommodating different points of view, or anything else, we might well reflect on the efforts of our representatives on Capitol Hill.

The forensic science profession in the United States developed without coordination, across hundreds of jurisdictions, and over more than a century, in response to meeting explicit needs of law enforcement and the courts. While showing many components of a mature profession, its academic component has remained rudimentary, failing (despite notable individual efforts) to provide leadership and fundamental development for the profession. Working for decades within this void, and virtually ignored by the legal and broader scientific communities, practitioners bore responsibility for development of the forensic sciences.

That period is clearly behind us. We now have everybody's attention and, not surprisingly, there are plenty of gaps to fill. OSAC fits within this context, remarkable for its size, its structure and its membership. For the first time the broader scientific community, legal community and forensic science critics are meaningfully engaging with forensic scientists. Likewise, for the first time, the diverse forensic science disciplines are engaging with one another. OSAC has brought this about within a structure that keeps practitioners largely in control, but requires meaningful interactions, consideration of progressive views, and standardization across disciplines. Following decades of benign neglect, it is a fruitful time for improvements in forensic sciences; expectations are high and the range of possible contributions, paralleling the diverse capabilities of our membership, is extraordinarily broad.

Amidst this great potential, our greatest challenge is the management of frustration – and there is *necessarily* considerable frustration. It could not be otherwise. Other professions have grown gradually, with practitioners adjusting to new ideas, academic contributions and opposing views over many years. We are condensing this process, simultaneously seeking contributions from many perspectives, and practitioners cannot help but feel frustrated and nearly overwhelmed. At the same time, other OSAC members with challenging views and meaningful contributions (often obvious within their own disciplines) find it frustrating to work with a profession that has developed empirically, and whose primary experience with scientific criticism has been in a confrontational and unforgiving legal arena.

The maintenance of our enthusiasm for this process is critically important. OSAC is a volunteer organization and we need all components of OSAC to work together. Accepting our frustration and keeping a proper perspective on this remarkable effort will help us recognize that small gains, along with the guarantee of continuing iterative improvements, will result in steady, and ultimately revolutionary, progress.

Membership Renewal or Replacement

- Starting in October 2016 (and each subsequent year), one-third of current OSAC members will be replaced or renewed for a three-year term (with a two-term limit)
- NIST accepts applications for participation in OSAC on a continuous basis
- Complete application at <https://nist.gov/forensics/osac-application.cfm>

An OSAC Annual Report is in Development

ANNUAL REPORT



February 2015 - February 2016

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Joint OSAC FSSB and NIST Statement (July 5, 2016)



- On Jan. 11, 2016, the OSAC Forensic Science Standards Board (FSSB) voted to elevate ASTM Standard E2329-14 “Standard Practice for Identification of Seized Drugs” to the OSAC Registry of Approved Standards. The standard is used by forensic laboratories as a protocol for testing seized drug evidence to determine if drugs of abuse such as cocaine or heroin are present. This is the first standard posted to the registry.
- ASTM E2329-14 contains the following sentence: “It is expected that in the absence of unforeseen error, an appropriate analytical scheme effectively results in no uncertainty in reported identifications.” **The FSSB and NIST agree that the term “effectively results in no uncertainty” means different things to different readers of the document. While this language was deemed appropriate by its authors, it was deemed inappropriate by others including NIST.** Consequently, NIST, OSAC, and ASTM have agreed to work together on new language that conveys clear meaning. This process is expected to take approximately 6 months. The OSAC will consider the revised ASTM document as quickly as possible for updating the current document on the registry. It is important to note that the concern over ASTM E2329 is in regards to the specific language used in the standard; neither the FSSB nor NIST is contesting the analytical results obtained from seized evidence using the standard.
- NIST and the FSSB will continue to work together on OSAC process improvements to help ensure consistently high quality scientific reviews of documentary standards that the forensic science community can endorse as trusted, valuable resources.

OSAC Leadership Strategy Session (OLSS) – Held June 22, 2016

- Involved gathering of representatives from
 - The governing Forensic Science Standards Board (FSSB)
 - Resource Committees (HFC, LRC, QIC, and stats task group)
 - 5 Scientific Area Committees (SACs)
 - NIST metrologists
- Discussed ways to improve communication and clarity of purpose
- Considered obstacles and metrics for program success
- **25 recommendations for improvements have been made and are being considered**

The Goal of Producing Documentary Standards in Forensic Science is Not New

Ideals for firearm identification

There should be adopted:

1. **Minimum standards of equipment** to be used.
2. **Standards for records of evidence** to accompany and substantiate the expert's opinion; these to include photographs, metrological data and interpretations in permanent form.
3. **Standards for qualification of experts** which will include actual tests made against secretly designated materials and reported in compliance with item 2.
4. Methods for... **following up [with] experts testifying in court** to guarantee the highest efficiency.

Wilmer Souder, *Army and Navy Journal*, March 19, 1932

National Commission on Forensic Science

A Federal Advisory Committee
for the U.S. Department of Justice



U.S. Department of Commerce

<http://www.justice.gov/ncfs>

National Commission on Forensic Science (NCFS)

www.justice.gov/ncfs

Policy-focused

NCFS Leadership

In 2013, the Department of Justice (DOJ) established the National Commission on Forensic Science, in partnership with the National Institute of Standards and Technology (NIST), to enhance the practice and improve the reliability of forensic science. This unique partnership draws upon each agency's core strengths to promote scientific validity, reduce fragmentation, and improve federal coordination of forensic science.

The Commission is co-chaired by Deputy Attorney General James M. Cole and NIST Acting Director and Acting Under Secretary of Commerce for Standards and Technology, Willie May. Nelson Santos, Deputy Assistant Administrator for the Office of Forensic Sciences at the Drug Enforcement Administration, and John M. Butler, Special Assistant to the NIST Director for forensic science, serve as vice-chairs. Brette Steele, Senior Advisor on Forensic Science and Senior Counsel to the Deputy Attorney General serves as the Designated Federal Officer and Robin Jones, Consultant within the Department of Justice, serves as Program Manager.

The Commission includes federal, state and local forensic science service providers; research scientists and academics; law enforcement officials; prosecutors, defense attorneys and judges; and other stakeholders from across the country.

GENERAL INFORMATION
NATIONAL COMMISSION ON FORENSIC SCIENCE

CONTACT

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By Phone:
(202) 305-0180

32 voting and 8 *ex-officio* members

Last meeting (9th): June 20-21, 2016

Next meeting (10th): Sept 12-13, 2016



Sally Q. Yates
Deputy Attorney General
DOJ Co-Chair



Willie E. May
Director of NIST
NIST Co-Chair



Nelson A. Santos
Vice-Chair (DOJ)



John M. Butler
Vice-Chair (NIST)

Current NCFS Subcommittees

<http://www.justice.gov/ncfs/subcommittees>

where much of the Commission work occurs...

NCFS Subcommittee	# Commissioners	# Non-Commissioners
1. Accreditation & Proficiency Testing	8	13
2. Human Factors	7	16
3. Interim Solutions	11	2
4. Medicolegal Death Investigation	7	7
5. Reporting & Testimony	13	9
6. Scientific Inquiry & Research	12	5
7. Training on Science & Law	7	5

Sunsetted at March 2016 NCFS meeting

Most Commissioners are on multiple subcommittees

57 non-Commissioners contributing to the process

Subcommittee products are discussed and voted on by the full Commission prior to being recommended to the Attorney General

NCFS Meeting Dates

RECENT MEETINGS

- Meeting 9: March 21 – 22, 2016 (OJP/NIJ)
- Meeting 10: June 20 – 21, 2016 (OJP/NIJ)

FUTURE MEETINGS

- Meeting 11: September 12 – 13, 2016 (NIST)
- Meeting 12: January 9 – 10, 2017 (OJP/NIJ)
- Meeting 13: April 10 – 11, 2017 (OJP/NIJ)

CONTINGENT UPON CHARTER RENEWAL

- Meeting 14: July 17 – 18, 2017
- Meeting 15: November 6 – 7, 2017

Commission Work Products

- The Commission is a Department of Justice Federal Advisory Committee and therefore **only has direct authority to make recommendations to the Attorney General.**

DOJ has promised to respond to NCFS work products within two meetings

- It is hoped that Commission work products will be considered and adopted by other Federal agencies and within state and local jurisdictions.

Voting is conducted electronically with a **two-thirds majority required to pass**



NCFS Work Products

(DOJ Response Coming Soon)

Approved at the March 21-22, 2016 NCFS meeting – to be addressed at upcoming September 12-13, 2016 meeting

Recommendations to the Attorney General

- 1. Testimony Using the Term “Reasonable Degree of Scientific Certainty”**
2. National Code of Professional Responsibility
3. Transparency of Quality Management System Documents
4. Funding for Post-Doctoral Projects to Facilitate Translation of Research into Forensic Science Practice

Views of the Commission

1. Establishing the Foundational Literature within the Forensic Science Disciplines
2. Proficiency Testing in Forensic Science
3. Critical Steps to Accreditation

Recommendations to the Attorney General Regarding **Use of the Term “Reasonable Scientific Certainty”** (NCFS Approved 3/22/16)

- **Recommendation #1:** The Attorney General should direct all attorneys appearing on behalf of the Department of Justice (a) to forego use of these phrases when presenting forensic discipline testimony unless directly required by judicial authority as a condition of admissibility for the witness’ opinion or conclusion, and (b) to assert the legal position that such terminology is not required and is indeed misleading.
- **Recommendation #2:** **The Attorney General should direct all forensic science service providers and forensic science medical providers employed by Department of Justice [FBI, DEA, and ATF Laboratories] not to use such language in reports or couch their testimony in such terms unless directed to do so by judicial authority.**
- **Recommendation #3:** The Attorney General should, in collaboration with NIST, urge the OSACs to develop appropriate language that may be used by experts when reporting or testifying about results or findings based on observations of evidence and data derived from evidence.

Work Products Adopted by the Commission

(R) Recommendation or (V) Views of the Commission

1. **(R) Survey of Law Enforcement Forensic Units**
2. (R → V) Accreditation of Medical Examiner and Coroner Offices
3. (R → V) Certification of Medicolegal Death Investigators
4. (V) Scientific Literature in Support of Forensic Science and Practice
5. (V) Inconsistent Terminology
6. **(R) Universal Accreditation**
7. (V) Forensic Science and Related Terms
8. **(R) Automated Fingerprint Identification System (AFIS) Interoperability**
9. **(R) Root Cause Analysis (RCA) in Forensic Science**
10. (V) Pretrial Discovery of Forensic Materials
11. (V) Increasing the Number, Retention, and Quality of Board-Certified Forensic Pathologists
12. (V) Electronic Networking of Medical Examiner and Coroner Offices
13. (V) Documentation, Case Record and Report Contents
14. (V) Ensuring that Forensic Analysis is Based Upon Task-Relevant Information
15. **(R) Forensic Science Curriculum Development**

Work Products Adopted by the Commission

(R) Recommendation or (V) Views of the Commission

16. (V) Using the Term “Reasonable Degree of Scientific Certainty”
17. (R) Using the Term “Reasonable Degree of Scientific Certainty”
18. (V) Establishing the Foundational Literature within the Forensic Science Disciplines
19. (R) Fund Post-Doctoral Projects to Facilitate Translation of Research into Forensic Science Practice
20. (R) National Code of Professional Responsibility for Forensic Science and Forensic Medicine Service Providers
21. (R) Transparency of Quality Management System Documents
22. (V) Proficiency Testing in Forensic Science
23. (V) Critical Steps to Accreditation
24. (R) Pretrial Discovery
25. (V) Judicial Vouching of Experts
26. (V) Notice and Demand Provisions
27. (V) Technical Merit Evaluation of Forensic Science Methods and Practices
28. (R) National Disaster Call Center

20

7

Forensic Science Ecosystem

(Simplified Version of the Criminal Justice System)

Law Enforcement

Legal Proceedings

LE Forensic Units

1

8

Evidence submitted

Reference(s) submitted

22



Forensic Laboratory

Accreditation

6

23

Sample Processing

14

Analysis

9

Interpretation

Q → K Comparison

21

27

Report Issued

If court, then expert testimony

16

17

5

13

10

24

25

26

Training

15

4

18

19

Scientific (Academic) Research for New Methods

2

3

11

12

Medical Examiner or Coroner's Office

Decedent Received

Report Issued

28

Circled numbers refer to first 28 NCFS work products

Yellow: Views of the Commission
Green: Recommendations adopted by DOJ
Gray: Recommendations outside of DOJ purview
Blue: Recommendations passed but no DOJ decision yet

Documents that will be discussed and voted on at the September 2016 NCFS meeting

1. **Report and Case Record Contents** (views) [Reporting and Testimony]
2. **Documentation, Case Record and Report Contents** (recommendation) [Reporting and Testimony]
3. **Optimizing Human Performance in Crime Laboratories through Testing and Feedback** (views) [Human Factors]
4. **Proficiency Testing** (recommendation) [Accreditation and Proficiency Testing]
5. **Accreditation Program Requirements** (views) [Accreditation and Proficiency Testing]
6. **Accreditation and Recognition of Forensic Science Certification Bodies** (views) [Accreditation and Proficiency Testing]
7. **Certification of Forensic Science Practitioners** (views) [Accreditation and Proficiency Testing]
8. **Formation of a National Office for Medicolegal Death Investigation** (recommendation) [Medicolegal Death Investigation]
9. **Communication with Next of Kin and Other Family Members** (views) [Medicolegal Death Investigation]

Public comment was open June 6 to July 5, 2016

EVIDENCE TECHNOLOGY MAGAZINE

The magazine dedicated exclusively to the technology of evidence collection, processing, and preservation
Volume 14, Number 2 • Summer 2016



Forensic Science News
from the
National Institute of
Standards and Technology

Recent Activities of the National Commission on Forensic Science

Written by John M. Butler

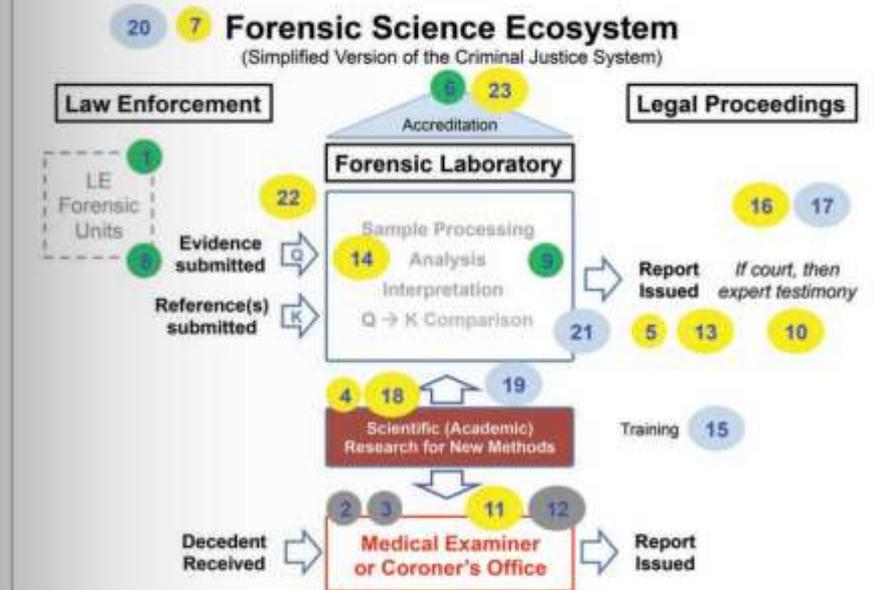
IN FEBRUARY 2013, the U.S. Department of Justice (DOJ) and the National Institute of Standards and Technology (NIST) announced a partnership that included formation of the National Commission on Forensic Science (NCFS) and what is now the Organization of Scientific Area Committees (OSAC). As a Federal Advisory Committee for DOJ, NCFS involves public meetings, public input on draft documents, and an open website sharing meeting materials and final documents. Video recordings of past meetings are available as well. Co-chaired by Deputy Attorney General Sally Yates and NIST Director Willie May, the Commission meets four times a year and involves energetic discussions on a variety of issues.

The accompanying figure is an attempt to show where the 23 NCFS documents thus far approved impact what can be termed the "forensic science ecosystem", which involves law enforcement, forensic laboratories, scientific (academic) research, medical examiner or coroner's offices, and the legal system. For example, NCFS work product #20 is a recommendation regarding a National Code of Professional Responsibility for Forensic Science and Forensic Medicine Service Providers, which received approval at the March 2016 meeting. The number 20 is shaded in light blue because this recommendation is currently under consideration by DOJ.

At the June 20-21, 2016 NCFS meeting, final drafts for seven work products may be introduced for a vote and approval by the Commission. These documents include recommendations regarding pretrial discovery, a request for NIST to perform developmental validation studies, accreditation of digital and multimedia forensic science service providers, and formation of a national disaster call center. Views documents under consideration cover judicial vouching of experts, notice and demand provisions, and validation of forensic science methodology.

The Commission's vision is for all forensic evidence to support the equal and impartial application of justice. The NCFS efforts can be framed into three primary goals: (1) foundational—

NIST CORNER



First 23 NCFS Adopted Work Products

Note: The recommendations in green below and in green on the figure have been responded to by DOJ. Other recommendations are being considered (blue) or are outside the purview of DOJ (gray). Views of the Commission are in yellow. Q = questioned sample; K = known sample

Other Past
and Future
NIST Activities

Cover stories: Making the cover for the Forensics special issue



Science, 11 March 2016

Vol. 351, Issue 6278, pp. 1109

“...Fortunately, the National Institute of Standards and Technology (NIST) came to the rescue. Alan Zheng, a mechanical engineer in NIST’s Surface and Nanostructure Metrology Group, told me about his large collection of toolmarks (impressions left by tools on surfaces). His assortment included bullets that had been shot into water tanks, thus preserving their shape and allowing researchers to study the striation marks created by the gun. This was exactly what we needed. Now I had to find the perfect photographer. ...”

- Christy Steele, Photo Editor at *Science*

http://science.sciencemag.org/content/351/6278/1109?utm_source=general_public&utm_medium=magazine&utm_campaign=CoverStory-2834

AAFS 2016 Presentation

The Best Forensic Scientist You've Never Heard Of

Wilmer Souder and the Early History of Forensic Science
at the National Bureau of Standards



June 10, 2016
a NIST colloquium
presentation was
given on Souder
and a NIST
museum exhibit
opened by his
granddaughter

NIST
National Institute of
Standards and Technology
U.S. Department of Commerce

Kristen M. Frederick-Frost, PhD

Robert M. Thompson, BS

John M. Butler, PhD

**NIST FORENSIC
SCIENCES**



LW1: **Last Word Society**
American Academy of Forensic Sciences
Las Vegas, NV (February 25, 2016)



Slides available on the NIST STRBase website:

http://www.cstl.nist.gov/strbase/pub_pres/Souder-AAFS2016-LWS-FINAL.pdf

Souder NIST Museum Exhibit Opened June 10, 2016





Photo credit: Rich Press (NIST)

AAFS 2016 Workshop on Forensic Science Literature



W1: Information Does Exist Beyond the
First Page of Your Google® Search!
American Academy of Forensic Sciences
Las Vegas, NV (February 22, 2016)



Slides available at

http://www.cstl.nist.gov/strbase/training/AAFS2016_LiteratureWorkshop.htm

Information Does Exist Beyond the First Page of Your Google® Search! Tools and Strategies for Forensic Science Literature Searching and Use

Chair: **John M. Butler**

Co-Chair: **Matthew R. Wood**



Transformation: Embracing Change

An International Panel Discussion on the Impact
of Recent Forensic Science Initiatives
and the Response of the Global Community

AAFS
2016
Plenary
Session

NCFS Co-Chair



Sally Q. Yates, JD
U.S. Department
of Justice
Washington, DC

Plenary Program Speakers



Gillian Tully, PhD
Forensic Science
Regulator,
UK Home Office
UNITED KINGDOM



Alastair Ross, AM
National Institute of
Forensic Science,
Retired
AUSTRALIA



Reinout Woittiez, PhD
Netherlands
Forensic Institute
NETHERLANDS

NCFS Co-Chair



Willie E. May, PhD
National Institute of
Standards and
Technology
Gaithersburg, MD



Victor W. Weedn, MD, JD
AAFS President
George Washington University
Department of Forensic Sciences
Washington, DC



Moderator:
John M. Butler, PhD
NIST

NCFS Vice-Chair

Forensic Science Discipline Review

- FSDR was announced by Deputy Attorney General Sally Yates during her talk at the AAFS Plenary in Feb 2016
 - Justice Dept. to expand review of FBI forensic techniques beyond hair unit (Spencer Hsu, *Washington Post*, February 25, 2016)
 - Justice Department frames expanded review of FBI forensic testimony (Spencer Hsu, *Washington Post*, March 21, 2016)
 - Justice Department issues first standards for forensic expert testimony (Spencer Hsu, *Washington Post*, June 3, 2016)
- Department of Justice Office of Legal Policy (OLP) is conducting the review (planning FY2008 to FY2012)
- OLP will be using what were originally called FBI ASSTRs (Approved Standards for Scientific Testimony and Report Language) → now DOJ ULTRs (Uniform Language for Testimony and Reports)
- **Court transcripts will be reviewed** to see if any overstatements or errors were made in testimony
- See <http://www.justice.gov/forensics>

DOJ Uniform Language for Testimony and Reports (ULTRs)

Disciplines (public comments received through July 8, 2016)

1. Toxicology
2. **Serology**
3. Latent Prints
4. Glass Analysis
5. Footwear & Tire Impression
6. Textile Fibers
7. General Chemistry

34-page draft methodology is open for public comment through August 1, 2016
<https://www.justice.gov/dag/file/870671/download>

Additional disciplines (including DNA) will be forthcoming

ULTRs and supporting documentation are available at <http://www.justice.gov/forensics>

ULTR for the Forensic Examination of Serology

DEPARTMENT OF JUSTICE PROPOSED UNIFORM LANGUAGE FOR TESTIMONY AND REPORTS FOR THE FORENSIC EXAMINATION OF SEROLOGY

Purpose and Scope

If adopted, this document will apply to Department of Justice personnel who perform forensic examinations and/or provide expert witness testimony regarding the forensic examination of serological evidence. This document does not imply that statements made or language used by Department personnel that differed from these proposed statements were incorrect, indefensible, or erroneous.

This document provides the acceptable range of opinions expressed in both laboratory reports and during expert witness testimony while acknowledging that this document cannot address every variable in every examination.

Full document available at <https://www.justice.gov/olp/file/861901/download>

ULTR for the Forensic Examination of Serology

Statements Approved for Serological Examination Testimony and/or Laboratory Reports

Identification of Blood or Semen

1. The examiner may state or imply that blood or semen was identified on an item of evidence when a positive result is obtained from the appropriate confirmatory testing procedure(s).

Statements Not Approved for Serological Examination Testimony and/or Laboratory Reports

Numerical Certainty

1. An examiner may not state or imply that a level of numerical certainty is calculated to support the identification of blood or semen.

Zero Error Rate

2. An examiner may not state or imply that the methods used in performing serological examinations have error rates of zero or that they are infallible. While the laboratory has a quality system in place to minimize and/or identify potential procedural errors, the analytical processes and procedures used to support serology testing do not have a calculable error rate due to the unpredictability of human error.

Current Scope of the FSDR

Table 1. Instances in Which FBI Examiners Provided Testimony for Certain Disciplines, FY 2008–2012²⁵

Latent prints	Firearms & Toolmarks	General Documents	Shoeprint & Tire Tread	Paints & Polymers
132	45	46	25	17

²⁵ The number of testimonies provided from FY 2008 to 2015 in various disciplines was obtained from individual unit/discipline databases maintained by the FBI. The FBI has no method for ensuring complete accuracy of this data through other methods.

**Department of Justice
Forensic Science Discipline Review of Testimony:
Draft Methodology**

To comment, please access this document through www.regulations.gov, OLP Docket No. 158. Comment is open through August 1, 2016. For more information on the Forensic Science Discipline Review of testimony, please contact the Office of Legal Policy at 202-514-4601 or FSDR.OLP@usdoj.gov.

34-page document available at
<https://www.justice.gov/dag/file/870671/download>



President's Council of Advisors on Science and Technology (PCAST)

Executive Office of the President

<https://www.whitehouse.gov/administration/eop/ostp/pcast>

July 13, 2016 Public Meeting

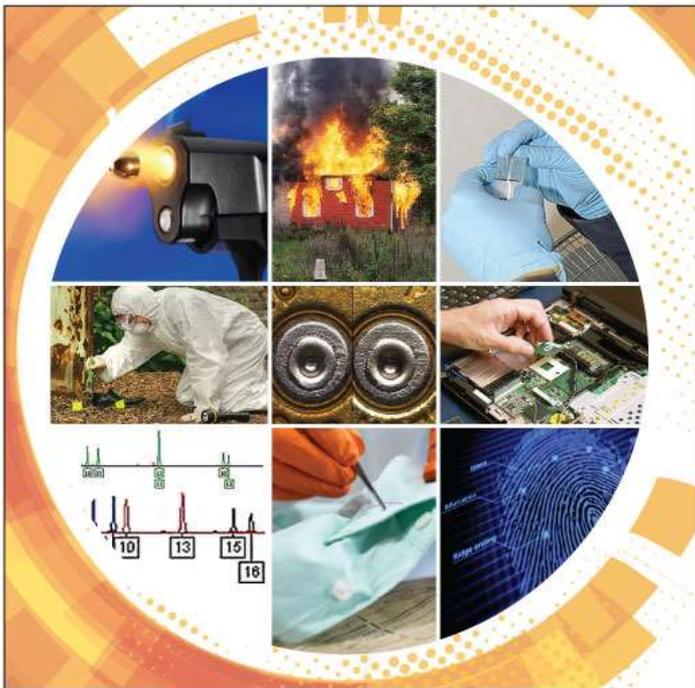
*A report on Forensic
Science is being written*



Upcoming Maryland Judges DNA Training

- Open to all judges in the state of Maryland
- **October 6, 2016** (8 hours)
- Annapolis, MD (at the state judicial institute)
- Will include presentations from
 - **Judge Sheila Adams** (Prince George's County)
 - **Prosecutor Wes Adams** (Anne Arundel County)
 - **Defense Attorney Steven Mercer** (MD Public Defender's Office)
 - **DNA Technical Leader Bruce Heidebrecht** (Maryland State Police Forensic Laboratory)
 - **Subject Matter Expert John Butler** (National Institute of Standards and Technology)
- Using three case scenarios (simple, medium, and challenging) to teach – ***could be applicable to others***
- **Plan to share slides on NIST STRBase website**

Biannual Conference to Showcase NIST Research



FORENSICS @ NIST

Previous Meetings:

November 28-30, 2012 at NIST

December 3-4, 2014 at NIST

Next Meeting:

November 8-9, 2016

Gaithersburg, MD

<http://www.nist.gov/oles/forensics-2012.cfm>

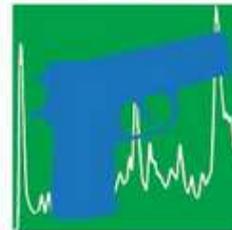
<http://www.nist.gov/forensics/forensics-at-nist-2014.cfm>

Forensic Conference Organized by NIST

FORENSIC SCIENCE
ERROR MANAGEMENT

INTERNATIONAL
FORENSICS SYMPOSIUM

JULY 20-24, 2015 • WASHINGTON, DC



Planning has started for a second Symposium

Date: July 24-28, 2017 (Tentative)

Location: Washington DC

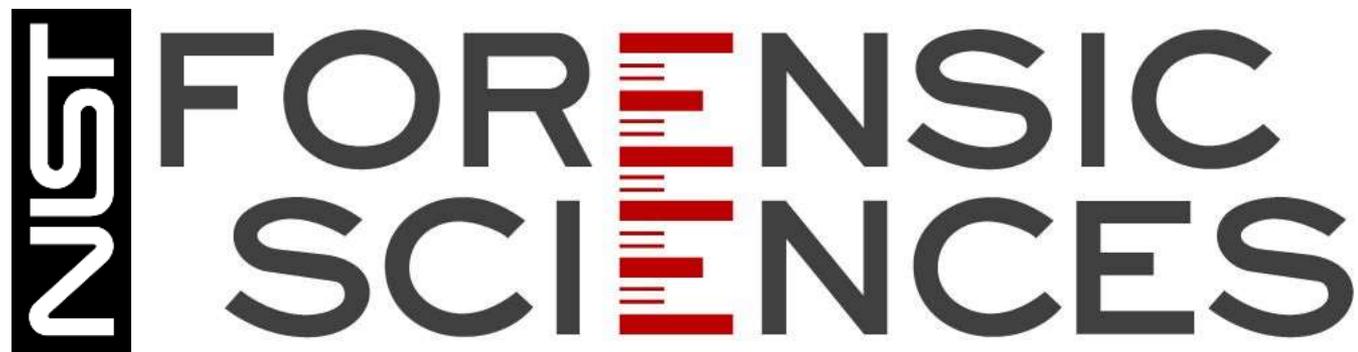
Sponsors that have been approached

DoD, FBI, NIST

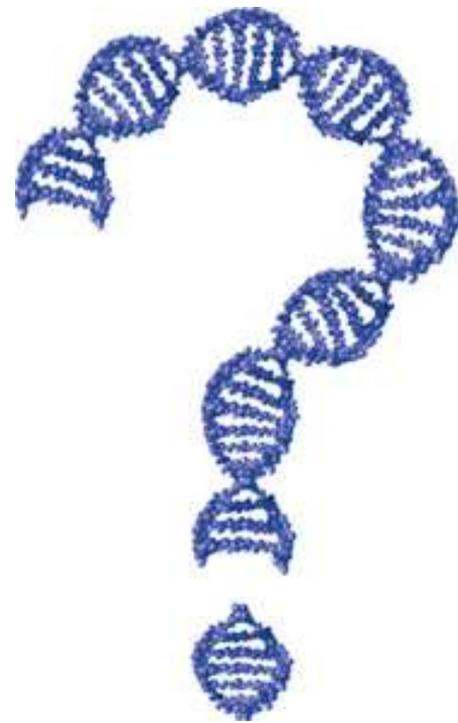
http://www.nist.gov/director/international_forensics_home.cfm

National Commission on Forensic Science (NCFS):
www.justice.gov/ncfs

Organization of Scientific Area Committees (OSAC):
www.nist.gov/forensics/osac/index.cfm



www.nist.gov/forensics



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